



# CHEMISTRY NMDCAT

(UNIT-11)

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## TOPICS

### ✓ FUNDAMENTAL PRINCIPLES OF ORGANIC CHEMISTRY

- Q.1** Which of the following is not carbocyclic compound?  
 a. Cyclopropane  
 b. Anthracene  
 c. Naphthalene  
 d. Furans
- Q.2** Cycloalkanes are represented by general formula  
 a.  $C_nH_{2n+2}$   
 b.  $C_nH_{2n-2}$   
 c.  $C_nH_{2n}$   
 d.  $C_nH_n$
- Q.3** Isobutylene is categorized in the class  
 a. Aliphatic compounds  
 b. Heterocyclic compounds  
 c. Aromatic compounds  
 d. Unsaturated heterocyclic compounds
- Q.4** Neo-pentane contains how many secondary hydrogen  
 a. 1  
 b. 2  
 c. 3  
 d. Zero
- Q.5** The organic compounds in which the carbon atoms are connected in series from one to the other are known as \_\_\_\_\_ compounds  
 a. Branched chain  
 b. Straight chain  
 c. Alicyclic  
 d. Homocyclic
- Q.6** The given three hydrocarbons are  
  
 Benzene      Naphthalene      Anthracene  
 a. Alicyclic hydrocarbons  
 b. Acyclic Hydrocarbons  
 c. Aromatic hydrocarbons  
 d. Heterocyclic hydrocarbons
- Q.7** Correct name of the given structure is  
  
 a. Cyclopentane  
 b. Cyclobutane  
 c. Cyclohexene  
 d. Cyclopentene
- Q.8** The compounds in which the ring consist of atoms of more than one kind are \_\_\_\_\_ compound  
 a. Homocyclic  
 b. Heterocyclic  
 c. Acyclic  
 d. Alicyclic
- Q.9** How many number of primary and secondary carbons in n-pentane  
 a. 3, 2  
 b. 5, 0  
 c. 2, 3  
 d. 0, 5
- Q.10** Which of the following is 1<sup>st</sup> synthetic organic compound  
 a.  $NH_4CNO$   
 b.  $NH_2COONH_4$   
 c.  $(NH_2)_2CO$   
 d.  $NH_2NH_2$
- Q.11** Which of the following is aromatic hydrocarbon  
 a. Pyridine  
 b. Toluene  
 c. Phenol  
 d. All of these
- Q.12** Rate of reactions of organic compounds are



a. Fast

c. Moderate

b. Very fast

d. Slow

**Q.13** Positional isomerism is not shown by

a. Aldehydes

c. Alcohols

b. Alkyl halides

d. Alkenes

**Q.14** IUPAC name of the following structure is  $\text{CH}_3\text{CH}(\text{CH}_3)\text{CH}_2\text{CHO}$

a. 2-Methylbutanal

c. 3-Methylbutanal

b. 2-Methylpentanal

d. Iso-Butanal

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- Q.15 Conversion of vinyl alcohol into acetaldehyde is**  
 a. Cis trans isomerism  
 b. Positional isomerism  
 c. Tautomerism  
 d. Chain isomerism
- Q.16 IUPAC name of Lactic acid is**  
 a. 3-Hydroxypentanoic acid  
 b. 2-Hydroxypropanoic acid  
 c. Propanoic acid  
 d. Butanoic acid
- Q.17 Cis trans isomerism is not shown by**  
 a. 2-butene  
 b. 2-pentene  
 c. 1-butene  
 d. 2-chloro-2-butene
- Q.18 Restricted rotation around double bond is due to**  
 a. Formation of sigma bond between  $sp^2$ -s orbital  
 b. Formation of pi bond between  $p_y - p_y$  orbitals  
 c. Formation of pi bond between  $p_z - p_z$  orbitals  
 d. Presence of bulky groups on doubly bonded carbons
- Q.19 Salicylic acid is the common name of the following structure  $C_6H_4(OH)COOH$ . IUPAC name is**  
 a. Hydroxybenzene  
 b. Hydroxybenzoic acid  
 c. Benzoic acid  
 d. Hydroxycarboxylic acid
- Q.20 Which one of the following shows geometrical isomerism?**  
 a. 1-Butene  
 b. 2-Butene  
 c. 2-Methyl-2-butene  
 d. All of these
- Q.21 The type of structural isomerism which arises due to the difference in the nature of carbon chain or carbon skeleton is**  
 a. Chain isomerism  
 b. Cis-Trans isomerism  
 c. Position isomerism  
 d. Optical isomerism
- Q.22 Name the compound, which shows geometric isomerism:**  
 a. 1-bromo-2-chloropropene  
 b. 2,3-dimethyl-2-butene  
 c. 2-pentene  
 d. Both A and B
- Q.23 The type of isomerism exhibited by maleic acid and fumaric acid is**  
 a. Functional group isomerism  
 b. Cis-trans isomerism  
 c. Positional isomerism  
 d. Chain isomerism
- Q.24 IUPAC name of  $CH_3C(CH_3)_2CH(CH_3)CH_3$**   
 a. 2,2,3-trimethyl butane  
 b. 2,2,4- trimethyl pentane  
 c. 2,3,3- trimethyl butane  
 d. 2,2-dimethyl pentane
- Q.25 The IUPAC name of the following compound is:**  
 $CH \equiv C - CH(CH_3) - CH = CH_2$   
 a. 5-Methyl-1-penten-2-yne  
 b. 3-Methyl-1-penten-4-yne  
 c. 3-Methyl-4-penten-1-yne  
 d. 3-Methyl-4-hepten-1-yne
- Q.26 An organic compound which contains  $-C \equiv N$  as a functional group is known as**  
 a. Amine  
 b. Nitrile  
 c. Imine  
 d. Amide
- Q.27 The structural formula of 2,3,4 trimethylpentane is**
- a. 
$$\begin{array}{ccccccc} & & CH_3 & & & & \\ & & | & & & & \\ H_3C & - & CH & - & CH & - & CH_2 \\ & | & & & | & & \\ & CH_3 & & & CH_3 & & \end{array}$$
- b. 
$$\begin{array}{ccccccc} & & CH_3 & & & & \\ & & | & & & & \\ H_3C & - & CH_2 & - & C & - & CH & - & CH_3 \\ & & & & | & & | & & \\ & & & & CH_3 & & CH_3 & & \end{array}$$
- c. 
$$\begin{array}{ccccccc} & & CH_3 & & & & \\ & & | & & & & \\ H_3C & - & C & - & CH_2 & - & CH & - & CH_3 \\ & | & & & | & & \\ & CH_3 & & & CH_3 & & \end{array}$$
- d. 
$$\begin{array}{ccccccc} & & CH_3 & & CH_3 & & \\ & & | & & | & & \\ H_3C & - & CH_2 & - & CH & - & C & - & CH_3 \\ & & & & & & | & & \\ & & & & & & CH_3 & & \end{array}$$
- Q.28 The IUPAC name of the given compound is**  

$$\begin{array}{c} CH_3 \\ | \\ CH_3 - CH - CH_2 - Cl \end{array}$$
  
 a. 1-Chloro-2-methylpropane  
 b. Isobutyl chloride  
 c. 1-Chloro-2-methylbutane  
 d. 2-Methyl-3-chloropropane





**Q.29** Skeletal formula of an organic compound is given below



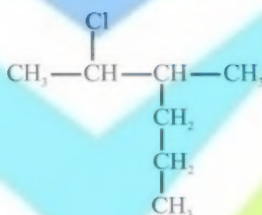
It is a hydrocarbon. IUPAC name of the compound is:

- a. 3,3 dimethyl 3-hexene      b. 3-hexene  
c. 3,4 dimethyl 3-hexene      d. 2,3 dimethyl 1-hexene

**Q.30** Which one of the following is Propanal?

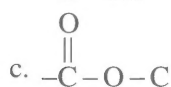
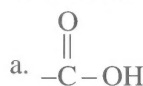
- a.  $\text{CH}_3\text{-O-CH}_2\text{-CH}_3$       b.  $\text{CH}_3\text{-CH}_2\text{COOH}$   
c.  $\text{CH}_3\text{-CO-CH}_3$       d.  $\text{CH}_3\text{-CH}_2\text{-CHO}$

**Q.31** Which one of the followings is the best name according to IUPAC system for the formula given below?



- a. 4-methyl-6-chloro heptane      b. 2-chloro-4n propyl hexane  
c. 2-chloro-3-methyl hexane      d. 2-chloro-4-n propyl pentane

**Q.32** Which one is a functional group of carboxylic acid



d. None of these

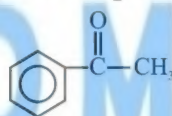
**Q.33** The functional group for thiols is

- a.  $\text{-OH}$       b.  $\text{-NH}_2$   
c.  $\text{-SH}$       d.  $\text{C=O}$

**Q.34** The organic compound which contains  $\text{C=NH}$  as a function group is called

- a. Amine      b. Imine  
c. Amide      d. Nitrile

**Q.35** Select the correct name of given compound

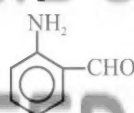


- a. Benzophenone      b. Benzylmethyl ketone  
c. Acetophenone      d. Ethylphenyl ketone

**Q.36** How many number of carbon and hydrogens respectively in neopentane

- a. 12, 5      b. 4, 10  
c. 10, 4      d. 5, 12

**Q.37** IUPAC name of the given compound is



- a. 2-Aminobenzene      b. 6-Aminobenzaldehyde  
c. 2-Aminobenzaldehyde      d. 3-Aminobenzaldehyde

**Q.38** Which one of the following is ketone?

- a.  $\text{CH}_3\text{-O-CH}_2\text{-CH}_3$       b.  $\text{CH}_3\text{-CO-COOH}$   
c.  $\text{CH}_3\text{-CO-CH}_2\text{-CH}_3$       d.  $\text{CH}_3\text{-CH}_2\text{-CHO}$



- Q.39 Ethanol ( $\text{CH}_3\text{CH}_2\text{OH}$ ) and dimethyl ether ( $\text{CH}_3\text{OCH}_3$ ) are best considered:**
- Structural Isomers
  - Functional Group isomers
  - Position Isomers
  - Cis-trans isomers
- Q.40 The compounds  $\text{CH}_3\text{CH}_2\text{OCH}_2\text{CH}_3$  and  $\text{CH}_3\text{OCH}_2\text{CH}_2\text{CH}_3$  are**
- Chain isomers
  - Position isomers
  - Metamers
  - Tautomers
- Q.41 Which of the following statements is false about tautomer's?**
- Tautomer's are structural isomers
  - Tautomer's are structural isomers which exist in dynamic equilibrium
  - Tautomer's involves movement of atoms
  - Tautomer's have independent existence
- Q.42 How many isomers are possible for the compound with molecular formula  $\text{C}_4\text{H}_{10}$ ?**
- 2
  - 4
  - 6
  - 8
- Q.43 How many structural isomers are possible for  $\text{C}_4\text{H}_9\text{Br}$ ?**
- 2
  - 3
  - 4
  - 5
- Q.44 Which compound is not an isomer of the other three?**
- n-Pentane
  - 2,2-Dimethylpropane
  - 2-Methylbutane
  - 2,3-Dimethylbutane
- Q.45 Alkenes show geometrical isomerism due to**
- Asymmetry
  - Rotation around a single bond
  - Resonance
  - Restricted rotation around a double bond
- Q.46 Which of the following compounds exhibit geometrical isomerism?**
- 1-Pentene
  - 2-Methyl-2-pentene
  - 2-Pentene
  - 2-Methyl-2-butene
- Q.47 Which of the following compounds may exist as cis-trans isomers?**
- 1-Butene
  - 2-Butene
  - Cyclopropane
  - Acetone
- Q.48 Which of the following is a correct name of Iso-octane according to the IUPAC rules?**
- 2-Methylhexane
  - 2-Ethyl-2-methylpentane
  - 3,4-Dimethylpentane
  - 2,2,4-Trimethylpentane
- Q.49 Which of the following is a correct name of Neo-Pentane according to the IUPAC rules?**
- 2-Methylbutane
  - 2-Methylpentane
  - 2,2-Dimethylpropane
  - 3-Ethyl-2-methylbutane
- Q.50 What is the IUPAC name for the following structure?**  
 $\text{CH}_3\text{CH}(\text{CH}_3)\text{CH}_2\text{CH}(\text{OH})\text{CH}_3$
- 4-methyl-2-pentanol
  - 2-methyl-2-hexanol
  - 2-methyl-4-pentanol
  - 2-methyl-3-pentanol



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# Chem T-11

Chemistry # 11 unit

Chemistry A

01-d	08-b	15-c	22-a, c	29-c	36-d	43-y	50-a
02-c	09-c	16-b	23-b	30-d	37-c	44-d	
03-a	10-c	17-c	24-a	31-c	38-c	45-d	
04-d	11-b	18-c	25-b	32-a	39-b	46-c	
05-b	12-d	19-b	26-b	33-c	40-c	47-b	
06-c	13-a	20-b	27-a	34-b	41-d	48-d	
07-d	14-c	21-a	28-d	35-c	42-a	49-c	

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